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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JEROME C. TU, CAROLA F. THOMPSON,
MARK F. FLYNN, DOUGLAS C. TWILLEAGER, DAVID A. CHAVEZ,
KEVIN D. MORISHIGE, PETER F. ULLMANN, and
ARTHUR L. BERMAN

Appeal 2017-001888
Application 14/072,933
Technology Center 2600

Before THU A. DANG, JOYCE CRAIG, and
ALEX S. YAP, *Administrative Patent Judges*.

DANG, *Administrative Patent Judge*.

DECISION ON APPEAL

I. STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's Final Rejection of claims 1–8, 11–17, and 19–29, which constitute all the claims pending in this application. Claims 9, 10, and 18 have been canceled. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

A. INVENTION

According to Appellants, the invention relates to “automatically assessing a handedness of a user by tracking one or more portions of a user and/or an input device manipulated by a user” (Spec. ¶ 1).

B. REPRESENTATIVE CLAIM

Claim 1 is exemplary:

1. An automated method for assessing handedness of a user of a system, comprising:

displaying a three dimensional (3D) stereoscopic image on a display, wherein the 3D stereoscopic image comprises at least one projected 3D object;

tracking a position and orientation of an input device in open space in relation to the at least one projected 3D object of the 3D stereoscopic image;

tracking a position and orientation of a head of the user; and assessing a handedness of a user based on the position and orientation of the input device with respect to the at least one projected 3D object and relative to the position and orientation of the head of the user.

C. REJECTIONS

Claims 1–4, 6–8, 11, 14–16, 19–25, and 28¹ stand rejected under 35 U.S.C. § 103(a) as unpatentable over the teachings of Nurmi (US 2009/0167702 A1; pub. July 2, 2009), Mihara et al. (US 2009/0048001 A1;

¹ The Examiner did not identify claims 11, 19, 20, and 28 in the heading of the rejection (Final Act. 9), but discussed them in the body of the rejection (Final Act. 13, 18–19). Thus, we understand the Examiner to have rejected claims 11, 19, 20, and 28 as unpatentable over the teachings of Nurmi, Mihara, and Vesely, and we find the Examiner’s misstatement in the rejection heading to be harmless error.

pub. Feb. 19, 2009) (“Mihara”), and Vesely (US 2012/0013613 A1; pub. Jan. 19, 2012).

Claims 5 and 29 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the teachings of Nurmi, Mihara, Vesely, and Kawamoto et al. (US 2010/0146253 A1; pub. June 10, 2010) (“Kawamoto”).

Claims 17, 22, and 26 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the teachings of Nurmi, Mihara, Vesely, and Mese et al. (US 2006/0038780 A1; pub. Feb. 23, 2006) (“Mese”).

Claims 12, 13, and 27 stand rejected under 35 U.S.C. § 103(a) as unpatentable over the teachings of Nurmi, Mihara, Vesely, and Hinckley (US 2012/0158629 A1; pub. June 21, 2012).

II. ISSUE

The principal issue before us is whether the Examiner erred in finding that the combination of Nurmi, Mihara, and Vesely teaches or would have suggested “assessing a handedness” of a user “based on the position and orientation of the input device with respect to the . . . projected 3D object and relative to the position and orientation of the head of the user” (claim 1).

III. FINDINGS OF FACT

The following Findings of Fact (FF) are shown by a preponderance of the evidence.

Nurmi

1. Nurmi discloses sensing an angular position of a pointing device relative to the user interface (Abst.), wherein Figure 4 is reproduced below:

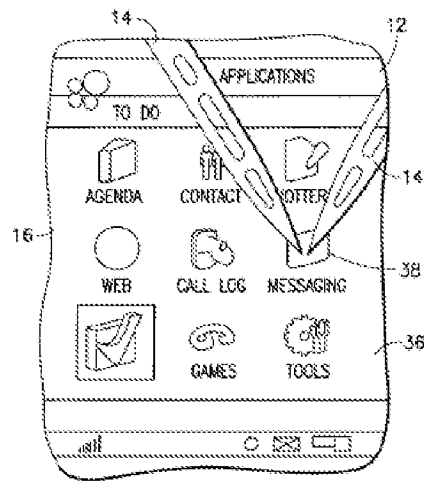


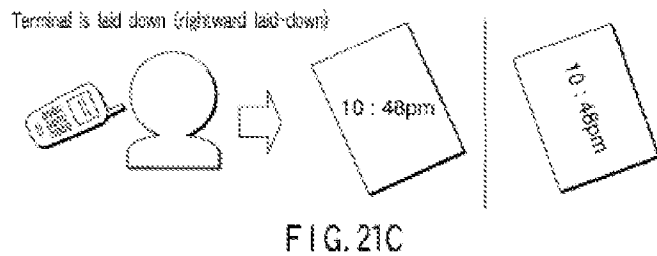
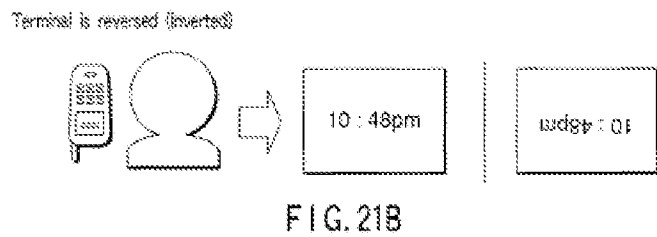
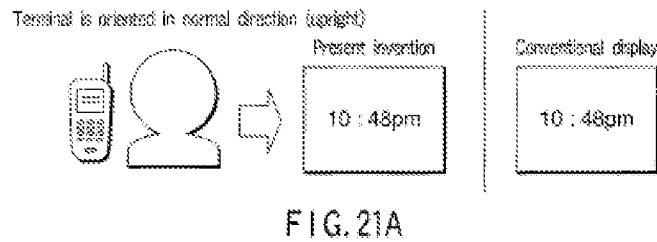
FIG. 4

Figure 4 shows detecting the angle of the pointing device in first position 14 and second position 14', which detects whether the user presses the messaging icon 38 with the stylus from a left or right angle, wherein the multi-feature icon (stylus angle dependent) can be indicated to the user by a 3D icon (§§ 50–51).

2. The angle sensor could sense whether the user was using his right or left hand on the touch sensitive area (§ 73).

Mihara

3. Mihara discloses an estimation unit that estimates the direction in which the user views a screen of the display unit (§ 186), wherein Figures 21A-C are reproduced below:



Figures 21A–C show a user viewing the terminal in an upright state, inverted state, or laid down state (*id.*).

Vesely

4. Vesely discloses using tools within a 3D scene (Abst.), wherein a user input device (such as a stylus) is used to interact with virtual objects of the 3D scene (§ 42).

IV. ANALYSIS

Although Appellants acknowledge Nurmi teaches “sensing the position and orientation of the stylus,” Appellants contend the sensed position and orientation are “with respect to a touch screen (specifically,

with respect to the ‘2D image’ displayed on the touch screen)” and not with respect to a projected 3D image as claimed (App. Br. 6). Although Appellants further acknowledge Mihara teaches “determining a position and orientation of a user’s head,” Appellants also contend the determining is based on the device’s orientation, wherein “Mihara fails to teach or suggest ‘assessing a handedness of a user’ at all” (App. Br. 7). Similarly, Appellants then contend “Vesely never even hints at ‘assessing a handedness of a user’ at all” (App. Br. 8).

We have considered all of Appellants’ arguments and evidence presented. However, we disagree with Appellants’ contentions regarding the Examiner’s rejections of the claims. We agree with the Examiner’s findings, and find no error with the Examiner’s conclusion that the claims would have been obvious over the combined teachings.

We note that Appellants’ contentions are directed to what Nurmi, Mihara, and Vesely individually fail to teach. However, the test for obviousness is what the combined teachings *would have suggested* to one of ordinary skill in the art. *See In re Merck & Co., Inc.*, 800 F.2d 1091, 1097 (Fed. Cir. 1986). Based on the record before us, we are unpersuaded the Examiner erred in finding the *combination* of Nurmi, Mihara, and Vesely teaches or at least suggests the contested limitation.

We agree with the Examiner’s finding that Nurmi teaches and suggests “assessing a handedness of a user based on the position and orientation of the input device with respect to at least one of the objects” (Final Rej. 10). In particular, Nurmi discloses determining whether the user was using his right or left hand based on the position and orientation of a stylus (FF 1–2). Thus, although Appellants contend neither Mihara nor

Vesely hints “at ‘assessing a handedness of a user’ at all” (App. Br. 7–8), we find no error with the Examiner’s reliance on Nurmi for teaching and suggesting this contested limitation.

Although Appellants contend that Nurmi’s assessing of a user’s handedness is based on the position and orientation of the stylus with respect to an icon, i.e., a “‘2D image’ displayed on the touch screen” (App. Br. 6), we note that Nurmi discloses that the stylus-angle-dependent icon (the object with respect to which the position and orientation of the stylus are determined) can be a 3D icon (FF 1; *see also* Nurmi Fig. 5). Nevertheless, we find no error with the Examiner’s reliance on Vesely instead for teaching and suggesting “displaying a three dimensional (3D) stereoscopic image, projected 3D object, tracking at least one projected 3D object of the 3D stereoscopic” (Final Rej. 12). In particular, Vesely discloses a projected 3D object and an input device (stylus) positioned with respect to the object (FF 4).

Accordingly, we agree with the Examiner’s finding that the combination of Nurmi and Vesely teaches and suggests “assessing a handedness” of a user “based on the position and orientation of the input device with respect to the . . . projected 3D object,” as recited in claim 1.

We also agree with the Examiner’s finding that “Mihara teaches tracking a position . . . and an orientation of a head of the user” relative to the position and orientation of a device (Final Rej. 10; FF 3). Even Appellants concede Mihara teaches “determining a position and orientation of a user’s head . . . based on a device’s orientation” (App. Br. 7).

Accordingly, we find no error in the Examiner’s reliance on the *combination* of the references for teaching and suggesting the contested

limitation of claim 1. That is, we find combining Nurmi's teaching of determining the handedness of a user based the position and orientation of a stylus with respect to an object (FF 1–2) with Mihara's determining the position and orientation of an object relative to the position and orientation of a user's head (FF 3), and further with Vesely's teaching of stylus-sensitive 3D objects (FF 4), to an ordinarily skilled artisan, is simply a combination of familiar prior art practices or acts (as taught or suggested by the cited combination of references) that would have realized a predictable result. The skilled artisan is "a person of ordinary creativity, not an automaton." *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 420–21 (2007).

Based on this record, we find no error in the Examiner's rejection of independent claim 1, and independent claims 19 and 23, which are not separately argued and falling therewith (App. Br. 8), as well as claims 3, 4, 6–8, 11, 15, 16, 20–22, 24, 25, and 28 respectively depending therefrom, over Nurmi, Mihara, and Vesely.

Appellants add that Nurmi, Mihara, and Vesely fail to disclose the further contested limitations of dependent claims 2 and 14 (App. Br. 9–10). However, we find no error with the Examiner's finding that the combined references teach and suggest the contested limitations (Ans. 7–9). Therefore, we adopt the Examiner's findings, which we incorporate herein by reference.

Accordingly, we are unpersuaded that the Examiner erred in also rejecting claims 2 and 14 over Nurmi, Mihara, and Vesely. Appellants do not provide separate arguments for claims 5, 12, 13, 17, 22, 26, 27, and 29. On this record, we also affirm the rejections of claims 5 and 29 over Nurmi, Mihara, and Vesely, in further view of Kawamoto; of claims 17, 22, and 26

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over Nurmi, Mihara, and Vesely, in further view of Mese; and of claims 12, 13, and 27 over Nurmi, Mihara, and Vesely, in further view of Hinckley.

V. CONCLUSION AND DECISION

We affirm the Examiner's rejections of claims 1–8, 11–17, and 19–29 under 35 U.S.C. § 103(a).

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED